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First Named Inventor	Wheeler, David
Art Unit	2132
Examiner Name	Perungavoor, Venkatanarayanan
Attorney Docket Number	800529

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Ellen Huffman  
Ellen Huffman

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Wheeler, et al.	Art Unit: 2132
Application No.: 09/681532	Examiner: Venkatanarayanan Perungavoor
Filed: 4/24/2001	Attorney Docket No.: 800529
Title: System And Method For Determining User Identity Fraud Using Similarity Searching	

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***APPLICANT'S APPEAL BRIEF UNDER 37 CFR 1.192***

Dear Sir:

The following Appeal Brief is submitted in support of Applicants' appeal of the Office's final rejection of claims with a mailing date of May 6, 2005. Applicants responded to the Office's final rejections by presenting final arguments for allowance and requested reconsideration and reexamination. The Office issued an Advisory Action with a mailing date of July 19, 2005 sustaining the final rejections. Applicants filed a Notice of Appeal on August 3, 2005.

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### **1. REAL PARTY IN INTEREST**

The real party of interest is the assignee of record, Infoglide Corporation, now Infoglide Software Corporation.

### **2. RELATED APPEALS AND INTERFERENCES**

No other appeals or interferences are pending which would affect, or be affected by, or have bearing on the Board's decision.

### **3. STATUS OF CLAIMS**

In a first Office Communication of November 18, 2004, the Office rejected claims 12 and 25 under 35 U.S.C. § 101 as being directed to non-statutory subject matter, claims 1, 3-8, 14-17, 26 and 27 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,774,650 to Chapman et al., and claims 2, 9-11, 13, 18-24 and 28-30 under 35 U.S.C. § 103(a) as being obvious in view of U.S. Patent No. 5,774,650 to Chapman et al. and U.S. Patent No. 6,026,398 to Brown et al. Appellants have rewritten claims 12 and 25 as claims 27 and 28 to overcome rejections under 35 U.S.C. § 101, and canceled claims 12 and 25. Claims 1, 2, 10, 11, 13, 18, 21, 22 and 26 were amended to further distinguish Appellants' claimed invention over the references cited by the Office, and new claims 29 and 30 were added. Appellants presented arguments in support of allowing the claims of the application. In a second and final Office Communication of May 6, 2005, the Office again rejected claims 1, 3-8 and 14-17 under 35 U.S.C. § 102(b) as being anticipated by Chapman, and claims 2, 9-11 and 13 under 35 U.S.C. § 103(a) as being obvious in view Chapman and Brown. Appellants responded to the final Office Action by presenting arguments in favor of allowance of the application, which were deemed not persuasive by the Office in an Advisory Action of July 19, 2005 in which the Office sustained the final rejections of Appellant's claims 1-11, 13-24 and 26-30. All claims are under appeal. The current status of claims 1-30 are shown in APPENDIX A.

#### **4. STATUS OF AMENDMENTS**

There are no outstanding amendments to the application. No amendments have been filed subsequent to final rejection.

#### **5. SUMMARY OF INVENTION**

The current invention provides a system and method for detecting identity fraud by prospective or new users of a computer system prior to allowing the prospective or new users to access the computer system. A user commits user identity fraud when attempting to gain access to a computer system by knowingly misrepresenting their identifying attributes by altering their identity information. Computer system operators need to have means for identifying these users by searching across multiple databases for commonalities or similarities in identifying attributes provided by a user when creating a new account. (see paragraph 0002 of the specification) The invention verifies the identity of new users by performing a similarity search between new user identity attributes or profile data provided by each new user and profile data of users previously suspended from accessing the computer system. Results of the similarity search are assigned a match score that is compared with a predetermined match tolerance level for determining a positive or negative similarity match. Positive similarity matches or negative similarity matches between new user profile data and suspended user profile data are used to allow or deny access to the computer system by a new user. Where a negative similarity match is determined, the new user is allowed access to the system. Where a positive similarity match is determined, the new user profile data and positive similarity search result set are forwarded to a review process. The new user is allowed access to the computer system where a positive similarity match is not confirmed, and denied access to the computer system where a positive similarity match is confirmed. (see paragraphs 0003 and 0004 of the specification, the descriptions of Figures 1 and

2 in paragraphs 0016 through 0023, and claims 1, 13, 26 and 29, as amended) Once a new user is allowed access to the computer system, the new user becomes a user and is no longer a new user, and further identity verification of that user is no longer required.

The meaning of the term “similarity searching” is based on the use of a similarity search engine disclosed in paragraph 0009 of Applicants’ specification as U.S. Patent Application No. 09/401,101, filed on September 22, 1999, which is incorporated by reference into Applicants’ specification. U.S. Patent Application No. 09/401,101 issued as U.S. Patent No. 6,618,727 on September 9, 2003. Similarity searching according to U.S. Patent No. 6,618,727 is a computer-implemented method for detecting and scoring similarities between documents in a source database and a search criterion such as new user profile data. It uses a hierarchy of parent and child categories to be searched, linking each child category with its parent category, which may be likened to a tree type structure with parent and child objects. Source database documents are converted into hierarchical database documents having parent and child objects with data values organized using the hierarchy of parent and child categories to be searched. Using scoring measure algorithms, a child object score is calculated for each child object that is a quantitative measurement of the similarity between child objects in the hierarchical database documents and child objects in the search criteria. A parent object score are computed by weighting and aggregating its child object scores using parent-computing algorithms. A user may select from a list of unique algorithms specified in a schema for determining child object scores and parent object scores. Calculating a score comprises determining a number for the score that represents how similar and dissimilar the source value, such as suspended user identity attributes or profile data, is to the search criteria, such as new user identity attributes or profile data. The calculated

score is a deterministic quantitative measure of the similarity between the source data and search criteria, and may, for example, take on any value between the numbers zero and one.

Regarding Applicants' claimed invention, Applicants' claims recite a method and system for verifying the identities of new users of a computer system by similarity searching user profile data in order to detect user identity fraud, as contrasted to the Chapman reference which discloses a method for controlling access to a networked computer system by username and password. The user profile data disclosed in Applicants' specification comprises user attributes or any inherent characteristic or object closely associated with or belonging to a specific person, whereas the profile disclosed in the Chapman reference is a UNIX operating system file that defines a user operating environment in the computer operating system. (see the Chapman reference, column 4, lines 58 through column 5, line 10, and column 5, line 65 through column 6, line 3) Applicants claimed invention also includes a secondary review of a new user profile data where a positive similarity match has been determined, which is not found in the Chapman or Brown reference. Furthermore, although the Brown reference describes a method for matching input search data against an index of a database to determine database records that either closely or exactly match the input search data, the process disclosed in the Brown reference is patentably distinct from the similarity search method incorporated by reference into Applicants' specification. The Brown reference relies on a match engine to convert elements of record structures to Soundex terms that are then compared to an index of Soundex terms to indicate a plurality of term sets that reference database match records that have a relationship to the Soundex terms. The match engine then uses a statistical analysis technique to determine which of the matching term sets are closely related to the input search data. (see the Brown reference, column 8, line 17 through line 64) Applicants' similarity search engine is a deterministic process

that relies on deterministic scoring measure algorithms and deterministic parent computing algorithms, and does not rely on statistical techniques as disclosed in the Brown reference. Applicants' similarity search engine does not reduce input search data to a finite set of Soundex terms in order to determine a similarity search result, as disclosed in the Brown reference. These differences account for some of Applicants' claim limitations that are not found in the Chapman or Brown references.

## **6. ISSUES**

6.1 Whether Applicants' claims 1, 3-8, 14-17, 26 and 27 are unpatentable under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,774,650 to Chapman et al.

6.2 Whether and claims 2, 9-11, 13, 18-24 and 28-30 are unpatentable under 35 U.S.C. § 103(a) as being obvious in view of U.S. Patent No. 5,774,650 to Chapman et al. and U.S. Patent No. 6,026,398 to Brown et al.

## **7. GROUPING OF CLAIMS**

For each ground of rejection that Applicants contests herein, which applies to more than one claim, such additional claims, to the extent separately identified and argued below, do not stand or fall together.

## **8. ARGUMENTS**

Applicants have submitted arguments below to substantiate a lack of a *prima facie* case of anticipation of claims 1, 3-8, 14-17, 26 and 27, and a lack of a *prima facie* case of obviousness of claims 2, 9-11, 13, 18-24 and 28-30.

### **8.1 ARGUMENTS FOR LACK OF A PRIMA FACIE CASE OF ANTICIPATION**

The Office has rejected claims 1, 3-8, 14-17, 26 and 27 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,774,650 to Chapman et al. If examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more, the applicant is



entitled to the grant of the patent. See *In re Oetiker*, 977 F. 2d 1443 (Fed. Cir. 1992). Under 35 U.S.C. § 102, anticipation requires that there is no difference between the claimed invention and reference disclosure, as viewed by a person of ordinary skill in the field of the invention. See *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565. Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. In deciding the issue of anticipation, the trier of fact must identify the elements of the claims, determine their meaning in light of the specification and prosecution history, and identify corresponding elements disclosed in the allegedly anticipating reference. See *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452.

#### **8.11 Arguments for Rejections of Independent Claims 1 and 26 Under 35 U.S.C. § 102(b)**

Independent claim 1 and independent claim 26 recite a method and system, respectively, for verifying the identities of new users of a computer system using similarity searching in order to detect user identity fraud, as contrasted to the Chapman reference which discloses a method for controlling access to a networked computer system by normal access control procedures using usernames and passwords, as well as programs referred to as “profiles” that could precede the normal access control procedure. These differences account for the Applicants’ claim limitations that are not found in the Chapman reference. See Table 1 for a side-by-side comparison of the limitations of Applicants’ claims 1 and 26 with the citations relied on by the Office for rejecting Applicants’ claims 1 and 26.

The first element of Applicants’ claim 1 and claim 26 recite the limitation, “receiving a plurality of records, each record containing profile data input by a new user”. See row 1 of Table 1A for a side-by-side comparison of this first limitation of claims 1 and 26 with the passage from

the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 1A. The plurality of records where each record contains profile data input by a new user in this limitation is not constrained to be user names and passwords for gaining access to a computer system, as cited by the Office in column 1, lines 17-20 of the Chapman reference. As described in paragraph 0002 and 0003 of Applicants' specification, a profile comprises identity attributes provided by a new user when creating a new account. Note that during patent examination, the pending claims must be given their broadest reasonable interpretation consistent with the specification. *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000). While the Chapman reference relies on usernames and passwords assigned by a system owner for authorizing access, Applicants claimed invention relies on at profiles containing user identity attributes to verify a new user identity, where the dictionary definition of attribute is any inherent characteristic or object closely associated with or belonging to a specific person. Furthermore, applying the dictionary definition of profile data to a new user (a person), profile data is a set of data, often in graphic form, portraying the significant features of the new user. Applicants' profile data is input by a new user prior to allowing or denying the new user access to the computer system, for determining that the new user is the person identified by the profile comprising identity attributes. Since, at the time a new user enters profile data, the new user has not given access to the computer system and the new user has not been assigned a username and password for system access by a system owner. Applicants' new user profile data is used to determine if the new user has been involved in fraudulent activities in the past, prior to allowing system access via a username and password information, as described in the Chapman reference for gaining access to a computer system. There is no disclosure in Applicants' claimed invention of

supplying a username and password when the user logs on, as disclosed in the Chapman reference. All users of a computer system must enter the access information listed in the Chapman reference every time a user wishes to gain access to the computer system. The receipt of new user profile data of Applicants' disclosure is only required by a new user, prior to allowing initial system access by a new user, to determine if the new user qualifies for access to the computer system. Once a new user qualifies for access to the computer system resulting from a negative similarity match according to Applicants' invention, the new user no longer needs to be re-qualified by inputting identity attribute profile data. Once a new user has been qualified by a negative similarity match and allowed to gain access to the computer system, the new user is no longer a new user, and becomes a normally authorized user as disclosed in the Chapman reference. The inputting of profile data into a record, as claimed by Applicants, is only required by new users on a one-time only basis, and is not required by all users for gaining access to a computer system as cited by the Office in column 1, lines 17-20 of the Chapman reference. Therefore, when the meaning of this limitation of Applicants' claim 1, namely, "receiving a plurality of records, each record containing profile data input by a new user" is given its broadest reasonable interpretation, this limitation is not found in the Chapman reference cited by the Office, because the new user has not been assigned a user name and password by a system owner. As shown in row 1 of Table 1, there is no correspondence between the first limitation of Applicants' claim 1, and the passages in the Chapman reference cited by the Office. As described above, there is no correspondence between Applicants' disclosed new user "profile" and the UNIX user environment program file "profile" disclosed in the Chapman reference. A plain reading of this limitation of Applicants' claim 1 demonstrates patentably distinguishable features that are not found in the Chapman reference cited by the Office.

The second element of Applicants' claim 1 and the third element of Applicants' claim 26 recite the limitation, "similarity searching the profile data of each record against suspended-users profile data". As described above, U.S. Patent No. 6,618,727, which is incorporated herein by reference, discloses a similarity search engine that may be used for similarity searching by comparing two documents to determine indicia of similarity that provides a quantitative measure of how alike the two documents are, such as a new user profile data and suspended-users profile data. This similarity search engine is used to similarity search the profile data against suspended-users profile data and provide a similarity search result set that includes indicia of similarity. The suspended-users profile data contains profile data of users that have been removed or suspended from the system in the past (see Applicants' specification paragraph 0016). If a new user profile data has a similarity match to a suspended-user's profile data, an investigation is conducted to determine if the new user is trying to gain access to the system by creating a new fictitious account (see Applicants' specification paragraph 0020).

The Office cites column 5, line 30-41 of the Chapman reference as disclosing Applicants' second limitation of claim 1 and third limitation of claim 26. See row 2 of Table 1A for a side-by-side comparison of the second limitation of claim 1 and the third limitation of claim 26 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants' contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 1A. This passage describes conventional methods for validating a user account by exact matching of usernames with those stored in a database file, authenticating the user by exact comparison of the encrypted true password with that supplied by a user attempting to logon, and establishing exact user credentials stored in a database. This cited passage in Chapman requires exact matching of usernames and passwords, which may be

performed by conventional database management systems. There is no disclosure of similarity searching in this cited passage, and furthermore, a similarity search would not be applicable or desirable to this application, since persons other than an authenticated user may gain access to the computer system by providing similar usernames and passwords. There is no correspondence or equivalence between Applicants' second limitation of claim 1 and the passage in Chapman cited by the Office, or between Applicants' third limitation of claim 26 and the passage in Chapman cited by the Office. There is no disclosure in the Chapman reference of similarity searching profile data against suspended-users profile data. There is no disclosure of either similarity searching or of suspended-users profile data in the Chapman reference.

The Office cites column 5 lines 42-45 of Chapman as disclosing Applicants' third limitation of claim 1 and fourth limitation of claim 26. See row 3 of Table 1A for a side-by-side comparison of the third limitation of claim 1 and the fourth limitation of claim 26 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 1A. This passage describes checking account details to determine whether or not to grant a user access to the system. There is no disclosure in this passage or anywhere else in the Chapman reference of receiving a similarity search result set. Furthermore, in order to accomplish this limitation, a similarity search engine like that disclosed in U.S. Patent No. 6,618,727 would be required. There is no disclosure in Chapman of similarity searching. There is no correspondence or equivalence between Applicants' third limitation of claim 1 and the passage in Chapman cited by the Office, or between Applicants' fourth limitation of claim 26 and the passage in Chapman cited by the Office.

The fourth element of Applicants' claim 1 and the fifth element of Applicants' claim 26 recite the limitation, "determining, for each record, whether a positive similarity match or a negative similarity match exists between the profile data of the record and the suspended-users profile data based on the similarity search result set". See row 4 of Table 1A for a side-by-side comparison of the fourth limitation of claim 1 and the fifth limitation of claim 26 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 1A. The citation by the Office describes checking account details by validating the user account, authenticating the user, and establishing user credentials. There is no disclosure in the Chapman reference of determining a positive or negative similarity match between profile data and suspended-users profile data based on the similarity search result set. There is no correspondence or equivalence between Applicants' fourth limitation of claim 1 and the passage in Chapman cited by the Office, or between Applicants' fifth limitation of claim 26 and the passage in Chapman cited by the Office.

The fifth element of Applicants' claim 1 and the sixth element of Applicants' claim 26 recite the limitations and "allowing a new user to access the computer system, where a negative similarity match is determined between the record of the new user and the suspended-users profile data". See row 5 of Table 1B for a side-by-side comparison of the fifth limitation of claim 1 and the sixth limitation of claim 26 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 1B. The passage cited by the Office describes constructing a list of temporarily authorized or unauthorized usernames. There is no disclosure in the Chapman reference of allowing access by

a new user where a negative similarity match is determined between the record of the new user and the suspended users profile data. There is no correspondence or equivalence between Applicants' fifth limitation of claim 1 and the passage in Chapman cited by the Office, or between Applicants' sixth limitation of claim 26 and the passage in Chapman cited by the Office.

The sixth element of Applicants' claim 1 and the seventh element of claim 26 recite the limitation "forwarding the record of a new user to a review process, where a positive similarity match is determined between the record of the new user and the suspended-users profile data, the review process comprising confirming whether the positive similarity match exists between the profile data of the record and the suspended-users profile data, allowing the new user to access the computer system, where the positive similarity match is not confirmed, and denying the new user access to the computer system, where the positive similarity match is confirmed." See row 6 of Table 1B for a side-by-side comparison of the sixth limitation of claim 1 and the seventh limitation of claim 26 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 1B. The Office cites column 6, line 66 through column 7, line 6 of Chapman as disclosing this limitation. This passage describes checking whether a user logging on is temporarily unauthorized to logon, displaying a message and logging him off. There is no correspondence or equivalence between Applicants' sixth limitation of claim 1 and the passage in Chapman cited by the Office, or between Applicants' seventh limitation of claim 26 and the passage in Chapman cited by the Office. There is no disclosure in the Chapman reference of a review process of a positive similarity match confirmation, based on the similarity search result set, confirming a similarity match

between the new user profile data and the suspended-users profile data, and allowing or denying access based on the similarity match.

It should be especially noted that for conventional applications involving authenticating usernames and passwords for computer access, exact matching of these parameters is a requirement every time a user desires access to the system. In contrast, when attempting to uncover computer access through fraudulent means, non-exact or similarity matching is desirable in order to make a determination of fraudulent activity based on degrees of similarity on a one-time basis for new users.

Since every element of Applicants' claimed invention, arranged as in the independent claims 1 and 26, are not found implicitly, explicitly or inherently in the single reference of Chapman, the Office has failed to substantiate a *prima facie* case for anticipation and Chapman et al does not anticipate Applicants' independent claims 1 and 26. Therefore the rejections of claims 1 and 26 should be withdrawn. Applicants request withdrawal of the rejection of claims 1 and 26, and allowance of the application.

**8.12 Arguments for Rejections of Dependent Claims 2-11 and 27 Under 35 U.S.C. §§ 102(b) and 103(a))**

Dependent claims 2-11 and 27 are either directly or indirectly dependent upon independent claim 1. These dependent claims incorporate all the limitations of the independent claim upon which they depend while providing further unique and non-obvious recitations. Since the rejection of claim 1 is not supported by the Chapman disclosure, the rejections of these dependent claims 2-11 and 27 as anticipated are also not supported by the Chapman or Brown references and should be withdrawn. Applicants request withdrawal of the rejection of claims 2-11 and 27, and allowance of the application.



COMPARISON OF CLAIMS 1 AND 26 LIMITATIONS WITH PASSAGES CITED BY THE OFFICE		
CLAIM LIMITATIONS	CITATION	OFFICE ASSERTED EQUIVALENT IN CHAPMAN
1. "a. receiving a plurality of records, each record containing profile data input by a new user"	Chapman: Column 1, Lines 17-20	"In most multiuser systems, a file or files listing valid usernames, or valid combinations of usernames and passwords are kept, and a user gains access to the system by supplying such a name and password when he logs on."
2. "b. similarity searching the profile data of each record against suspended-users profile data"	Chapman: Column 5, Lines 30-41	Describes a process of checking a user account details 42 at logon, as shown in Figure 3 of Chapman. The step 42 comprises the steps of validating 44, authenticating 46 and establishing credentials 48. Validating 44 the user account is performed by checking that a username 31 exists in a file 30 that matches the username supplied by the user attempting to gain access. Authenticating 46 the user is performed by comparing an encrypted true password 31 with an encrypted password supplied by the user attempting to gain access. Establishing credentials 48 is data stored in a database that define the user's accountability and access rights to files on the system.
3. "c. receiving a similarity search result set"	Chapman: Column 5, Lines 42-45	"This step 42 of checking account details is therefore the step at which it is normally determined whether or not a user is to be granted access to the system 2 and allowed to proceed with the later steps in the logon sequence."
4. "d. determining, for each record, whether a positive similarity match or a negative similarity match exists between the profile data of the record and the suspended-users profile data based on the similarity search result set"	Chapman: Column 5, Lines 30-45	Same as 2 and 3 above.

TABLE 1A

COMPARISON OF CLAIMS 1 AND 26 LIMITATIONS WITH PASSAGES CITED BY THE OFFICE		
CLAIM LIMITATIONS	CITATION	OFFICE ASSERTED EQUIVALENT IN CHAPMAN
5. "e. allowing a new user to access the computer system, where a negative similarity match is determined between the record of the new user and the suspended-users profile data"	Chapman: Column 6, Lines 58-63	"For example, a list of temporarily unauthorized, or temporarily authorized usernames could be constructed (the latter could even include invalid usernames, since the account validating step 44 of the logon sequence would ensure these were not admitted), or the user number 33 could be required to be within a specified interval."
6. "f. forwarding the record of a new user to a review process, where a positive similarity match is determined between the record of the new user and the suspended-users profile data, the review process comprising:"	Chapman: Column 6, Line 66 through Column 7, Line 6	"This may involve the addition of code to /etc/profile, which would effect the steps of checking whether a user logging on is temporarily unauthorized according to the definition, and if so, displaying a message and logging him off, (using the 'kill' command explained in the next step). Obviously, etc/profile could be permanently adapted to search for such a definition, which might be vacuous, or might not necessarily exist."
6.1 "i. confirming whether the positive similarity match exists between the profile data of the record and the suspended-users profile data"	No Citation	Presumably addressed above in 6.
6.2 "ii. allowing the new user to access the computer system, where the positive similarity match is not confirmed"	No Citation	Presumably addressed above in 6.
6.3 "iii. denying the new user access to the computer system, where the positive similarity match is confirmed"	No Citation	Presumably addressed above in 6.

TABLE 1B

## **8.2 ARGUMENTS FOR LACK OF A PRIMA FACIE CASE OF OBVIOUSNESS**

The Office has rejected claims 2, 9-11, 13, 18-24 and 28-30 under 35 U.S.C. § 103(a) as being unpatentable over Chapman et al. (U.S. Patent No. 5,774,650) in view of U.S. Patent No. 6,026,398 to Brown et al. The Office bears the initial burden of establishing a *prima facie* case of obviousness. See *In re Piasecki*, 223 USPQ785, 788 (Fed. Cir. 1984). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 20 USPQ2d 1438 (Fed. Cir. 1991), MPEP § 2142 and § 2143.

### **8.21 Arguments for Rejections of Dependent Claims 2 and 9-11 Under 35 U.S.C. § 103(a)**

Regarding Applicants' dependent claims 2 and 9-11, claims 2 and 9-11 are either directly or indirectly dependent upon independent claim 1. These dependent claims incorporate all the limitations of the independent claim upon which they depend while providing further unique and non-obvious recitations. Since it has been shown above that the rejection of claim 1 is not supported by the Chapman disclosure and claim 1 is not anticipated, the rejections of these dependent claims 2 and 9-11 as obvious are also not supported by the Chapman reference and should be withdrawn.

Considering further Applicants' dependent claim 2, claim 2 recites the limitation, "wherein the step of determining a positive or negative similarity match further comprises

assigning a match score to each similarity search result set and comparing the match score to a pre-determined match tolerance level.” As described above, U.S. Patent No. 6,618,727, which is incorporated herein by reference, discloses a similarity search engine that may be used for similarity searching by comparing two documents to determine indicia of similarity that provides a quantitative measure of how alike the two documents are, such as a new user profile data and suspended-users profile data. This similarity search engine is used to similarity search the profile data against suspended-users profile data and provide a similarity search result set that includes indicia of similarity.

The Office cites column 3, line 66 - column 4, line 7 of Brown as disclosing having a match score for similarity search result. See row 1 of Table 2A for a side-by-side comparison of the limitation of claim 2 with this passage from the Brown reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 2A. The cited passage in the preceding paragraph in Brown discloses only one step of a process. When considered in a context as a whole process, the process bears no relation to Applicants claimed invention. The Brown reference discloses a process that (1) phonetically encodes text elements of input search data into Soundex terms, (2) compares the Soundex terms to an index of a finite set of Soundex terms that reference database match records that are at least similar to the input search data, (3) computes record weights for matching terms, (4) determines how close input data is to certain match records using statistical analysis techniques, and (5) applies Q-gram functions to determine precise match conditions, described in column 3, line 47 through column 4, line 29 of the Brown reference. There is no disclosure in this passage of assigning a match score to each similarity search result set, as claimed by Applicants. The Office also cites column 14, lines 49-

51 of Brown as disclosing comparing a match score against a predetermined tolerance level. When the cited passage in Brown is put in the context of the process of twenty-two statistical tests shown in Figure 11 and described in the description beginning in column 14 lines 8, the disclosure in column 14, line 43-58 describes three types of match conditions that may result from the twenty-two statistical record match tests being described. A result of the twenty-two statistical match tests is a hit, a miss or multiple value being assigned to a corresponding match record. The cited passage discloses multiple match conditions when more than one match record matches input search data above a threshold amount, based on the twenty-two statistical match tests. There is no disclosure of comparing the match score assigned to each similarity search result set to a pre-determined match tolerance level, as illustrated in row 1 of Table 2A. There is no disclosure in Applicants' specification of using twenty-two statistical match record tests. The cited passage of column 4, lines 27-30 of Brown describes a Q-Gram function allows the invention to determine a precise match condition. There is no disclosure in Applicants' specification of a Q-Gram function.

Considering Applicants' dependent claim 9, claim 9 recites the limitation, "wherein the step of similarity searching further comprises similarity searching the new-user profile data against the suspended-users profile database, via a batch similarity search engine." The search engine disclosed in incorporated U.S. Patent No. 6,618,727 performs the similarity search function. There is no disclosure of the use of statistical techniques in the Applicants' specification or in U.S. Patent No. 6,618,727.

The Office cites column 8, lines 17-25 and column 8, lines 48-51 of Brown as disclosing Applicants' claim 9. See row 2 of Table 2A for a side-by-side comparison of the limitation of claim 9 with this passage from the Brown reference that the Office asserts is equivalent.

Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 2A. Note that the cited passages rely on database records that are statistically tested using a statistical analysis technique. There is no disclosure of Applicants' similarity search engine, which does not rely on statistical techniques, to determine a similarity search result set. There is no disclosure of similarity searching, according to Applicants' disclosure, in either the Chapman reference or the Brown reference. There is no disclosure in the Chapman or Brown reference of new user profile data comprising new user identity attributes, as disclosed in Applicants' specification.

Considering Applicants' dependent claim 10, claim 10 recites the limitation, "wherein the positive response process further comprises relaying the new-user record to a user-review database, before the step of confirming at least one positive similarity match." The Office cites column 14, lines 8-21 of Brown as disclosing records for review. See row 3 of Table 2B for a side-by-side comparison of the limitation of claim 10 with this passage from the Brown reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 2B. The cited passage does not disclose relaying the new-user record to a user-review database before the step of confirming at least one similarity match. The passage describes use of twenty-two record match tests that are applied to record weights in a statistical analysis to determine whether there is a weighted match record that is sufficiently distinct in its weight to be considered a match for the input search data. There is no disclosure in Applicants' specification of using statistical analysis in a similarity search. The Brown reference also does not disclose similarity search functions claimed by Applicants, according to incorporated U.S. Patent No. 6,618,727.

Considering Applicants' dependent claim 11, claim 11 recites the limitation, "further comprising the step of displaying the user-review database via a web-based interface, after the step of relaying the new-user record to a user-review database and before the step of confirming at least one positive similarity match." The Office cites column 15, line 62 - column 16, line 3, and column 20, lines 50-56 of the Brown reference as disclosing this limitation. See row 4 of Table 2B for a side-by-side comparison of the limitation of claim 11 with this passage from the Brown reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 2B. The cited passage in the Brown reference discloses the use of twenty-two statistical tests for determining a hit, miss or multiple match conditions. The cited passage does not disclose displaying the user-review database via a web-based interface, after the step of relaying the new-user record to a user-review database before the step of confirming at least one similarity match. The Brown reference also does not disclose a positive similarity search match as claimed in Applicants' specification and disclosed according to incorporated U.S. Patent No. 6,618,727.

Since every element of Applicants' claimed invention, arranged as in the dependent claims 2 and 9-11, are not found implicitly, explicitly or inherently in the Chapman or the Brown reference, the Office has failed to substantiate a *prima facie* case for obviousness. Therefore the rejections of claims 2 and 9-11 should be withdrawn. Applicants request withdrawal of the rejection of claims 2 and 9-11, and allowance of the application.

COMPARISON OF DEPENDENT CLAIMS 2, and 9-11 LIMITATIONS WITH PASSAGES CITED BY THE OFFICE		
CLAIM LIMITATIONS	CITATION	OFFICE ASSERTED EQUIVALENT IN BROWN
1. Claim 2 “the step of determining a positive or negative similarity match further comprises assigning a match score to each similarity search result set and comparing the match score to a pre-determined match tolerance level.”	Brown: Column 3, Line 66 through Column 4, Line 7	The cited passage relies on a first function described in Column 3, Lines 47-65 to determine matching index entries. This function is described as a Soundex function that phonetically encodes text elements. The cited passage discloses reliance on the matching index entries using a Soundex function for computing record weights and determining match conditions for indicating how close input data is to certain match records using a second function described in Column 4, Lines 8-15 as a statistical test.
	Brown: Column 14, Lines 49-50	“A multiple match condition exists when one or more match record matches the input search data above a predetermined threshold amount.” This is one of three possible results of statistical twenty-two record match tests.
	Brown: Column 4, Lines 27-30	“The Q-gram function allows the invention to exactly determine a precise match condition for the closest database match records.”
2. Claim 9 “the step of similarity searching further comprises similarity searching the new user profile data against the suspended-users profile database, via a batch similarity search engine.”	Brown: Column 8, Lines 17-25	The cited passage describes a field mapper 11 shown in Figure 2 for mapping input search data into the record structure shown in Figure 4, and the match engine that matches the mapped record structure against a Soundex index in the database. The match engine may produce many database record identifiers that are statistically tested to produce the database match records.
	Brown: Column 8, Lines 48-51	“The match engine 13 of FIG. 2 then uses a statistical analysis technique to determine which of the matching term sets 67 of the matching index entries 68 are closely related to the input search data 140 of FIG. 3.”

TABLE 2A



COMPARISON OF DEPENDENT CLAIMS 2, and 9-11 LIMITATIONS WITH PASSAGES CITED BY THE OFFICE		
CLAIM LIMITATIONS	CITATION	OFFICE ASSERTED EQUIVALENT IN BROWN
3. Claim 10 "the positive response process further comprises relaying the new-user record to a user-review database, before the step of confirming at least one positive similarity match."	Brown: Column 14, Lines 8-21	The citation relies on the use of a second function described in Column 13, Lines 55-59 of Brown as "any statistical analysis function which compares the record weights of each unique match record, or a subset thereof, and determines the likelihood of a close match between individual match records and the input search data." The cited passage discusses use of a second function shown in Figure 11 comprising "twenty-two record match tests T1-T22 which are applied to the ten highest record weights of match records. The objective of the second function is to determine, if possible, whether one or a few of the top ten weighted match records is sufficiently distinct in its weight to be considered a match to the input search data." "Each record match test outputs a test weight value which may be used in combination with other test weight values to determine the statistical likelihood of a particular match record corresponding to the input search data."
4. Claim 11 "further comprising the step of displaying the user-review database via a web-based interface, after the step of relaying the new-user record to a user-review database and before the step of confirming at least one positive similarity match."	Brown: Column 15, Line 62 through Column 16, Line 3	In Figure 7, after all twenty-two tests are performed 37, the final result of each test is evaluated to determine if a hit, miss or multiple match condition has been obtained 38. The next step 41 outputs the match condition of each match record which "closely" matches the user input search data via either a hit or multiple match condition. Alternatively, only a hit match condition may be output.
	Brown: Column 20, Lines 50-56	The processor may be any microprocessor commonly used in computers. The output device is used to output information from the computer system, such as monitors, LCD screens, printers, or network connections to other computers.

TABLE 2B

**8.22 Arguments for Rejection of Independent Claim 13 Under 35 U.S.C. § 103(a)**

Regarding Applicants' independent claim 13, claim 13 recites a method for verifying the identities of new users of a computer system using similarity searching to detect identity fraud, as contrasted to the Chapman reference which discloses a method for controlling access to a networked computer system by usernames and passwords. The Brown reference discloses a system and method for searching and matching databases using Soundex functions and statistical analysis techniques, which is not similarity searching according to Applicants' specification, as discussed above in relation to claims 1 and 26. These differences account for the Applicants' claim limitations that are not found in the Chapman and Brown references. See Table 3 for a side-by-side comparison of the limitations of Applicants' claims 13 with the citations relied on by the Office for rejecting Applicants' claims 13.

The first element of Applicants' claim 13 recites the limitation, "receiving a plurality of records into a production new-user database, each record comprising profile data input by a new user". The Office has cited column 4, lines 16-20 of Brown as disclosing this limitation. See row 1 of Table 3A for a side-by-side comparison of the limitation of claim 13 with this passage from the Brown reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 3A. The cited passage discloses that if a second statistical function test fails to find a hit or multiple record match conditions, a third function, which may be a Q-Gram function, may be used. There is no disclosure of Applicants' first limitation of claim 13 in the Brown reference cited by the Office. There is no disclosure in the Chapman or Brown reference of new user database records comprising profile data input by a new user.

The second element of Applicants' claim 13 recites the limitation, "updating a new-users profile database, with profile data from each record received into the production new-users database". The Office has cited column 1, lines 57-61 of Chapman as disclosing this limitation. See row 2 of Table 3A for a side-by-side comparison of the limitation of claim 13 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 3A. The cited passage discloses the need for reflecting an added new user or permanent deleted existing user in backed-up and active versions of the file system. Applicants' new-users profile database, production new-users database does not function as backed-up versions of system files, but are integral functions of Applicants' claimed invention. There is no disclosure in the Chapman or Brown reference of new user profile data, as previously discussed. The passages cited by the Office do not disclose the second limitation of Applicants' claim 13.

The third element of Applicants' claim 13 recites the limitation, "updating a suspended-users profile database, containing suspended-user profile data, with additional suspended-user profile data stored in a production-suspended-users database". The Office has cited column 4, lines 16-26 and column 6, lines 56-64 of Chapman as disclosing this limitation. See row 3 of Table 3A for a side-by-side comparison of the limitation of claim 13 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 3A. The cited passages disclose a Unix user account file and temporarily restricting access. As previously discussed, the profile file in the Brown reference is a UNIX operating system program file that defines a user operating environment, and does not describe

new user identity attributes. Applicants' suspended-users profile database does not function as backed-up versions, but are integral functions of Applicants' claimed invention. There is no disclosure of the use of user names and passwords in Applicants' specification. The passages cited by the Office do not disclose the third limitation of Applicants' claim 13.

The fourth element of Applicants' claim 13 recites the limitation, "relaying the new-user profile data from the new-user profile database to a similarity search engine". The Office has cited column 8, lines 17-25 of Brown as disclosing the fourth limitation of Applicants' claim 13. See row 4 of Table 3A for a side-by-side comparison of the limitation of claim 13 with this passage from the Brown reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 3A. The passage cited by the Office discloses mapping input search data into a record structure and a match engine for matching the mapped record structure against an index database. The match engine relies on statistical methods to produce database match records. There is no disclosure of Applicants' similarity search engine, which does not rely on statistical techniques to determine a similarity search result set. There is no disclosure of new user profile data or of relaying new user profile data to a similarity search engine. This disclosure is patentably distinct from Applicants' disclosed invention, which does not rely on statistical analysis techniques. The passage cited by the Office does not disclose the fourth limitation of Applicants' claim 13.

The fifth element of Applicants' claim 13 recites the limitation, "similarity searching the new-user profile data against the suspended-users profile database, via the similarity search engine". The Office has cited column 8, lines 48-51 of Brown as disclosing the fifth limitation of Applicants' claim 13. See row 5 of Table 3B for a side-by-side comparison of the limitation

of claim 13 with this passage from the Brown reference that the Office asserts is equivalent.

Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 3B. The passage cited by the Office discloses a match engine that uses a statistical analysis technique to determine closely related terms that were determined by indexing to a finite set Soundex terms. This disclosure is patentably distinct from Applicants' disclosed similarity search engine, which does not rely on statistical analysis techniques. There is no disclosure of new user profile data or of suspended user profile data. The passage cited by the Office does not disclose the fifth limitation of Applicants' claim 13.

The sixth element of Applicants' claim 13 recites the limitation, "receiving at least one similarity search result set". The Office has cited column 5, line 42-45 of Chapman as disclosing the sixth limitation of Applicants' claim 13. See row 6 of Table 3B for a side-by-side comparison of the limitation of claim 13 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 3B. The passage cited by the Office discloses checking account details to determine whether a user may be granted access to the system. There is no disclosure in this cited passage of receiving a similarity search result set from a similarity search engine as disclosed in the sixth element of Applicants' claim 13.

The seventh element of Applicants' claim 13 recites the limitation, "determining, for each record, whether a positive similarity match or a negative similarity match exists between the profile data of the record and the suspended-users profile data based on the similarity search result set". The Office has provided no citation as disclosing the seventh limitation of Applicants' claim 13, but asserts the conclusory statement "Chapman et al. discloses comparing

profile data against an unauthorized list to check to see if a user could gain access to the computer system.” See row 7 of Table 3B for a side-by-side comparison of the limitation of claim 13 with conclusory statement that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent anywhere in the Chapman reference cited by the Office, as shown in Table 3B. There is no disclosure in Chapman of determining whether a positive similarity match or a negative similarity match exists for each record between the profile data of the record and the suspended users profile data based on the similarity search result set, as disclosed in the seventh element of Applicants’ claim 13.

The eighth element of Applicants’ claim 13 recites the limitation, “allowing a new user to access the computer system, where a negative similarity match is determined between the record of the new user and the suspended-users profile data”. The Office has provided no citation as disclosing the eighth limitation of Applicants’ claim 13, but asserts the conclusory statement “Chapman et al. discloses comparing profile data against an unauthorized list to check to see if the user could gain access to the computer system.” See row 8 of Table 3B for a side-by-side comparison of the limitation of claim 13 with conclusory statement that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent anywhere in the Chapman reference cited by the Office, as shown in Table 3B. There is no disclosure in Chapman of allowing a new user to access the computer system where a negative similarity match is determined between the record of the new user and the suspended users data profile, as disclosed in the eighth element of Applicants’ claim 13.

The ninth element of Applicants’ claim 13 recites the limitation, “forwarding the record of a new user to a review process, where a positive similarity match is determined between the record of the new user and the suspended-users profile data, the review process”. The Office has

cited column 14, lines 8-21 of Brown as disclosing the ninth limitation of Applicants' claim 13. See row 9 of Table 3C for a side-by-side comparison of the limitation of claim 13 with this passage from the Brown reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 3C. The passage cited by the Office discloses use of statistical analysis techniques to compare record weights of each unique match record, as determined by a Soundex function, and determines the likelihood of a close match between individual match records and the input search data. This disclosure is patentably distinct from Applicants' disclosed similarity search engine, which does not rely on statistical analysis techniques or Soundex functions. The passage cited by the Office does not disclose the ninth limitation of Applicants' claim 13.

The ninth sub-elements of Applicants' claim 13 recites the limitations, "confirming whether the positive similarity match exists between the profile data of the record and the suspended-users profile data, allowing the new user to access the computer system, where the positive similarity match is not confirmed, and denying the new user access to the computer system, and forwarding the profile data from the new-user record to the production suspended-users database, where the positive similarity match is confirmed.". The Office has cited column 6, line 66 through column 7, line 6 of Chapman, and column 1, lines 57-61 of Chapman as disclosing the ninth sub-limitations of Applicants' claim 13. See rows 9.1 and 9.2 of Table 3C and row 9.3 of Table 3D for a side-by-side comparison of the limitation of claim 13 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 3C and Table 3D. The Office cites column 6, line 66 through column

7, line 6 of Chapman as disclosing this limitation of Applicants' claimed invention. This passage describes checking whether a user logging on is temporarily unauthorized to logon, displaying a message and logging him off. This disclosure is patentably distinct from Applicants' disclosed invention. The Office has also cited column 1, lines 57-61 of Chapman as disclosing this limitation of Applicants' claimed invention. The cited passage discloses the need for reflecting an added new user or permanent deleted existing user in backed-up and active versions of the file system. Applicants' new-users profile database, production new-users database does not function as backed-up versions, but are integral functions of Applicants' claimed invention. The passages cited by the Office do not disclose the ninth sub-limitation of Applicants' claim 13.

Since every element of Applicants' claimed invention, arranged as in the independent claim 13, are not found implicitly, explicitly or inherently in Chapman in view of Brown, the Office has failed to substantiate a *prima facie* case for obviousness for Applicants' independent claim 13. Therefore the rejection of claim 13 should be withdrawn. Furthermore, claims 14-24 and 28 are either directly or indirectly dependent upon independent claim 13. These dependent claims incorporate all the limitations of the independent claim upon which they depend while providing further unique and non-obvious recitations. Since the rejection of claim 13 is not supported by the Chapman and Brown disclosures, the rejections of these dependent claims 14-24 and 28 as obvious are also not supported by the Chapman and Brown references and should be withdrawn. Applicants request withdrawal of the rejection of claims 13-24 and 28, and allowance of the application.



COMPARISON OF INDEPENDENT CLAIM 13 LIMITATIONS WITH PASSAGES CITED BY THE OFFICE		
CLAIM LIMITATIONS	CITATION	OFFICE ASSERTED EQUIVALENT IN CHAPMAN AND BROWN
1. "a. receiving a plurality of records into a production new-user database, each record comprising profile data input by a new user"	Brown: Column 4, Lines 16-20	"If the second function fails to find a direct "hit" or an acceptable "multiple" record match condition, a third function may be used to determine how close the input data is to the weighted match records. The third function may be a Q-Gram function, which provides string matching capabilities."
2. "b. updating a new-users profile database, with profile data from each record received into the production new-users database"	Chapman: Column 1, Lines 57-61	"This method has other deficiencies. For example, during the period of access restriction, the addition of a new user or permanent deletion of an existing user would frequently need to be reflected in both the backed-up and the active versions of the system file."
3. "c. updating a suspended-users profile database, containing suspended-user profile data, with additional suspended-user profile data stored in a production-suspended-users database"	Chapman: Column 4, Lines 16-26	The passage describes a file in a UNIX system that defines user accounts and their characteristics, including an entry for granting user access to the system following authentication of a password. The passage also describes the user's home directory where a user stores its own programs and data. Figure 2 shows an example of a user account file.
	Chapman: Column 6, Lines 56-64	This passage describes a step of a method for temporary restriction to access for creating a definition of temporarily unauthorized users using usernames or user numbers required within a specified interval.
4. "d. relaying the new-user profile data from the new-user profile database to a similarity search engine"	Brown: Column 8, Lines 17-25	The cited passage describes a field mapper 11 shown in Figure 2 for mapping input search data into the record structure shown in Figure 4, and the match engine 13 that matches the mapped record structure against an index in the database. The match engine may produce many database record identifiers that are statistically tested to produce the database match records 14.

TABLE 3A

COMPARISON OF INDEPENDENT CLAIM 13 LIMITATIONS WITH PASSAGES CITED BY THE OFFICE		
CLAIM LIMITATIONS	CITATION	OFFICE ASSERTED EQUIVALENT IN CHAPMAN AND BROWN
5. "e. similarity searching the new-user profile data against the suspended-users profile database, via the similarity search engine"	Brown: Column 8, Lines 48-51	"The match engine 13 of FIG. 2 then uses a statistical analysis technique to determine which of the matching term sets 67 of the matching index entries 68 are closely related to the input search data 140 of FIG. 3."
6. "f. receiving at least one similarity search result set	Chapman: Column 5, Lines 42-45	"This step 42 of checking account details is therefore the step at which it is normally determined whether or not a user is to be granted access to the system 2 and allowed to proceed with the later steps in the logon sequence."
7. "g. determining, for each record, whether a positive similarity match or a negative similarity match exists between the profile data of the record and the suspended-users profile data based on the similarity search result set"	Chapman: No Citation	Conclusory statement by Office: "Chapman et al. discloses comparing profile data against an unauthorized list to check to see if the user could gain access to the computer system."
8. "h. allowing a new user to access the computer system, where a negative similarity match is determined between the record of the new user and the suspended-users profile data"	Chapman: No Citation	Conclusory statement by Office: "Chapman et al. discloses comparing profile data against an unauthorized list to check to see if the user could gain access to the computer system."

TABLE 3B

COMPARISON OF INDEPENDENT CLAIM 13 LIMITATIONS WITH PASSAGES CITED BY THE OFFICE		
CLAIM LIMITATIONS	CITATION	OFFICE ASSERTED EQUIVALENT IN CHAPMAN AND BROWN
9. "j. forwarding the record of a new user to a review process, where a positive similarity match is determined between the record of the new user and the suspended-users profile data, the review process comprising:"	Brown: Column 14, Lines 8-21	The citation relies on the use of a second function described in Column 13, Lines 55-59 of Brown as "any statistical analysis function which compares the record weights of each unique match record, or a subset thereof, (determined by a Soundex function) and determines the likelihood of a close match between individual match records and the input search data." The cited passage describes a second function comprising "twenty-two record match tests T1-T22 which are applied to the ten highest record weights of match records. The objective of the second function is to determine, if possible, whether one or a few of the top ten weighted match records is sufficiently distinct in its weight to be considered a match to the input search data." "Each record match test outputs a test weight value which may be used in combination with other test weight values to determine the statistical likelihood of a particular match record corresponding to the input search data."
9.1 "i. confirming whether the positive similarity match exists between the profile data of the record and the suspended-users profile data"	Chapman: Column 6, Line 66 through Column 7, Line 6	"This may involve the addition of code to /etc/profile, which would effect the steps of checking whether a user logging on is temporarily unauthorized according to the definition, and if so, displaying a message and logging him off, (using the 'kill' command explained in the next step). Obviously, etc/profile could be permanently adapted to search for such a definition, which might be vacuous, or might not necessarily exist."
9.2 "ii. allowing the new user to access the computer system, where the positive similarity match is not confirmed"		

TABLE 3C

COMPARISON OF INDEPENDENT CLAIM 13 LIMITATIONS WITH PASSAGES CITED BY THE OFFICE		
CLAIM LIMITATIONS	CITATION	OFFICE ASSERTED EQUIVALENT IN CHAPMAN AND BROWN
9.3 "iii. denying the new user access to the computer system, and forwarding the profile data from the new-user record to the production suspended-users database, where the positive similarity match is confirmed.	Chapman: Column 1, Lines 57-61	"This method has other deficiencies. For example, during the period of access restriction, the addition of a new user or permanent deletion of an existing user would frequently need to be reflected in both the backed-up and the active versions of the system file."

TABLE 3D

**8.23 Arguments for Rejections of Dependent Claims 18-24 and 28 Under 35 U.S.C. § 103(a)**

Regarding Applicants' claims 18-24 and 28, claims 18-24 and 28 are either directly or indirectly dependent upon independent claim 13. These dependent claims incorporate all the limitations of the independent claim upon which they depend while providing further unique and non-obvious recitations. Since it has been shown above that the rejection of claim 13 is not supported by the Chapman and Brown disclosures and claim 13 is not obvious, the rejections of these dependent claims 18-24 and 28 as obvious are also not supported by the Chapman and Brown references and should be withdrawn.

Considering further Applicants' dependent claim 18, claim 18 recites the limitation, "wherein the step of determining a positive or negative similarity match further comprises assigning a match score to each similarity search result set and comparing the match score to a pre-determined match tolerance level." As described above, U.S. Patent No. 6,618,727, which is incorporated herein by reference, discloses a similarity search engine that may be used for similarity searching by comparing two documents to determine indicia of similarity that provides a quantitative measure of how alike the two documents are, such as a new user profile data and suspended-users profile data. This similarity search engine is used to similarity search the profile data against suspended-users profile data and provide a similarity search result set that includes indicia of similarity.

The Office cites column 3, line 66 - column 4, line 7 of Brown as disclosing having a match score for similarity search result. See row 1 of Table 4A for a side-by-side comparison of the limitation of claim 18 with this passage from the Brown reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 4A. The cited passage discloses

reliance on the matching index entries using a Soundex function that phonetically encodes text elements for computing record weights and determining match conditions for indicating how close input data is to certain match records using a second function described in Column 4, Lines 8-15 as a statistical test. There is no disclosure in this passage of assigning a match score to each similarity search result set, as claimed by Applicants and disclosed in U.S. Patent No. 6,618,727. The Office also cites column 14, lines 49-51 of Brown as disclosing comparing a match score against a predetermined tolerance level. The cited passage discloses multiple match conditions when more than one match record matches input search data above a threshold amount, as determined by twenty-two statistical record match tests. There is no disclosure of comparing the match score assigned to each similarity search result set to a pre-determined match tolerance level, as illustrated in row 1 of Table 4A. The cited passage of column 4, lines 27-30 of Brown describes a Q-Gram function that allows the invention to determine a precise match condition. There is no disclosure in Applicants' specification of a G-Gram function.

Considering Applicants' dependent claim 19, claim 19 recites the limitation, "a similarity search result set is received for each new-user record searched." The Office cites column 5, lines 30-41 of Chapman as disclosing records for review. See row 2 of Table 4A for a side-by-side comparison of the limitation of claim 19 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 4A. This passage describes conventional methods for validating a user account by exact matching of usernames with those stored in a database file, authenticating the user by exact comparison of the encrypted true password with that supplied by a user attempting to logon, and establishing exact user credentials stored in a database. This cited passage in Chapman requires exact matching of

usernames and passwords, which may be performed by conventional database management systems. There is no disclosure of similarity searching in this cited passage, and furthermore, a similarity search would not be applicable or desirable to this application, since persons other than an authenticated user may gain access to the computer system by providing similar usernames and passwords. There is no correspondence or equivalence between Applicants' claim 19 and the passage in Chapman cited by the Office. There is no disclosure in the Chapman reference of receiving a similarity searching result set for each new user record searched.

Considering Applicants' dependent claim 20, claim 20 recites the limitation, "one similarity search result set is received for all new-user records searched." The Office cites column 5, line 65 through column 6, line 1 of Chapman as disclosing receiving one similar search result set for all new user records searched. See row 3 of Table 4B for a side-by-side comparison of the limitation of claim 20 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 4B. This passage describes a UNIX operating system profile program files that define a user environment in the operating system and enables a computer user to set up desired functions at logon. This is patentably distinguishable from Applicants' new user profile data file describing identity characteristics of a new user that are similarity searched to verify an identity of the new user prior to authenticating the new user for access as a regular user to a computer system. Once a new user is allowed access to a computer system, the new user is no longer a new user, and further identity verification of the user is no longer required. The function of executing a user environment profile is distinguishable from similarity searching new user identity records for authenticating a new user identity. There is no disclosure of similarity searching in this cited

passage of Chapman, and furthermore, a similarity search would not be applicable or desirable for specifying user functions at logon. There is no correspondence or equivalence between Applicants' claim 20 and the passage in Chapman cited by the Office. There is no disclosure in the Chapman reference of receiving one similarity searching result set for all new user records similarity searched.

Considering Applicants' dependent claim 21, claim 21 recites the limitation, "the positive response process further comprises relaying the new-user record to a user-review database, before the step of confirming at least one positive similarity match." The Office cites column 14, lines 8-21 of Brown as disclosing a positive response further comprising relaying the new user record to a user review database, before the step of confirming at least one positive similarity match. See row 4 of Table 4B for a side-by-side comparison of the limitation of claim 21 with this passage from the Brown reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 4B. The passage cited by the Office discloses use of statistical analysis techniques to compare record weights of each unique match record, as determined by a Soundex function, and determines the likelihood of a close match between individual match records and the input search data using twenty two statistical tests. This disclosure is patentably distinct from Applicants' disclosed relaying new user records to a user review database, before the step of confirming at least one positive similarity match. The passage cited by the Office does not disclose the limitation of Applicants' claim 21. There is no correspondence or equivalence between Applicants' claim 21 and the passage in Brown cited by the Office.

Considering Applicants' dependent claim 22, claim 22 recites the limitation, "displaying the user-review database via a web-based interface, after the step of relaying the new-user record



to a user-review database and before the step of confirming at least one positive similarity match.” The Office cites column 15, line 62 - column 16, line 3, and column 20, lines 50-56 of the Brown reference as disclosing this limitation. See row 5 of Table 4C for a side-by-side comparison of the limitation of claim 22 with this passage from the Brown reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 4C. The cited passage does not disclose displaying the user-review database via a web-based interface, after the step of relaying the new-user record to a user-review database before the step of confirming at least one similarity match. The Brown reference also does not disclose a positive similarity search match as claimed in Applicants’ specification and disclosed according to incorporated U.S. Patent No. 6,618,727.

Considering Applicants’ dependent claim 23, claim 23 recites the limitation, “denying a new user access to the computer system comprises permanently denying the new user access to the computer system.” The Office cites column 1, line 32-34 of the Chapman reference as disclosing this limitation. See row 6 of Table 4C for a side-by-side comparison of the limitation of claim 23 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 4C. The cited passage discloses deleting a user permanently from a system, in which a user’s data files would also be deleted. This is contrary to Applicants’ claimed invention where the information would be stored in a suspended user profile database, to be similarity searched when a new user applies for access to the system. The Brown reference also does not disclose permanently denying the new user access to the computer system as claimed in Applicants’ specification.

Considering Applicants' dependent claim 24, claim 24 recites the limitation, "denying a new user access to the computer system comprises temporarily denying the new user access to the computer system for a pre-determined period." The Office cites column 6, line 45-47 of the Chapman reference as disclosing this limitation. See row 7 of Table 4C for a side-by-side comparison of the limitation of claim 24 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 4C. The cited passage discloses establishing a grace period and issuing a warning notifying users of impending access restriction. Since a new user has not yet been granted access to a system since they are not users, according to Applicants' claimed invention, the cited passage by the Office is not applicable to Applicants' claim 24. The Brown reference also does not disclose temporarily denying the new user access to the computer system as claimed in Applicants' specification.

COMPARISON OF DEPENDENT CLAIMS 18-24 LIMITATIONS WITH PASSAGES CITED BY THE OFFICE		
CLAIM LIMITATIONS	CITATION	OFFICE ASSERTED EQUIVALENT IN CHAPMAN AND BROWN
1. Claim 18 “the step of determining a positive or negative similarity match further comprises assigning a match score to each similarity search result set and comparing the match score to a pre-determined match tolerance level.”	Brown: Column 3, Line 66 through Column 4, Line 7	The cited passage relies on a first function described in Column 3, Lines 47-65 to determine matching index entries. This function is described as a Soundex function that phonetically encodes text elements. The cited passage discloses reliance on the matching index entries using a Soundex function for computing record weights and determining match conditions for indicating how close input data is to certain match records using a second function described in Column 4, Lines 8-15 as a statistical test.
	Column 14, Lines 49-51	“A multiple match condition exists when one or more match record matches the input search data above a predetermined threshold amount.”
	Column 4, Lines 27-30	“The Q-gram function allows the invention to exactly determine a precise match condition for the closest database match records.”
2. Claim 19 “wherein a similarity search result set is received for each new-user record searched.”	Chapman: Column 5, Lines 30-41	Describes a process of checking a user account details 42 at logon, as shown in Figure 3 of Chapman. The step 42 comprises the steps of validating 44, authenticating 46 and establishing credentials 48. Validating 44 the user account is performed by checking that a username 31 exists in a file 30 that matches the username supplied by the user attempting to gain access. Authenticating 46 the user is performed by comparing an encrypted true password 31 with an encrypted password supplied by the user attempting to gain access. Establishing credentials 48 is data stored in a database that define the user’s accountability and access rights to files on the system.

TABLE 4A

COMPARISON OF DEPENDENT CLAIMS 18-24 LIMITATIONS WITH PASSAGES CITED BY THE OFFICE		
CLAIM LIMITATIONS	CITATION	OFFICE ASSERTED EQUIVALENT IN CHAPMAN AND BROWN
3. Claim 20 "wherein one similarity search result set is received for all new-user records searched."	Chapman: Column 5, Line 65 through Column 6, Line 1	"Next, programs referred to as profiles are run 70. The first profile to be run is the system-wide profile/etc/profile 72, previously mentioned. If there is a file called profile in the user's home directory 36, this is run 74 subsequently. This file contains functions which the user himself can specify to be provided during each logon."
4. Claim 21 "wherein the positive response process further comprises relaying the new-user record to a user-review database, before the step of confirming at least one positive similarity match."	Brown: Column 14, Lines 8-21	The citation relies on the use of a second function described in Column 13, Lines 55-59 of Brown as "any statistical analysis function which compares the record weights of each unique match record, or a subset thereof, and determines the likelihood of a close match between individual match records and the input search data." The cited passage discusses use of a second function shown in Figure 11 comprising "twenty-two record match tests T1-T22 which are applied to the ten highest record weights of match records. The objective of the second function is to determine, if possible, whether one or a few of the top ten weighted match records is sufficiently distinct in its weight to be considered a match to the input search data." "Each record match test outputs a test weight value which may be used in combination with other test weight values to determine the statistical likelihood of a particular match record corresponding to the input search data."

TABLE 4B

COMPARISON OF DEPENDENT CLAIMS 18-24 LIMITATIONS WITH PASSAGES CITED BY THE OFFICE		
CLAIM LIMITATIONS	CITATION	OFFICE ASSERTED EQUIVALENT IN CHAPMAN AND BROWN
5. Claim 22 "displaying the user-review database via a web-based interface, after the step of relaying the new-user record to a user-review database and before the step of confirming at least one positive similarity match.	Brown: Column 15, Line 62 through Column 16, Line 3	In Figure 7, after all twenty-two tests are performed 37, the final result of each test is evaluated to determine if a hit, miss or multiple match condition has been obtained 38. The next step 41 outputs the match condition of each match record which "closely" matches the user input search data via either a hit or multiple match condition. Alternatively, only a hit match condition may be output.
	Brown: Column 20, Lines 50-56	The processor may be any microprocessor commonly used in computers. The output device is used to output information from the computer system, such as monitors, LCD screens, printers, or network connections to other computers.
6. Claim 23 "the step of denying a new user access to the computer system comprises permanently denying the new user access to the computer system."	Chapman: Column 1, Lines 32-34	"This is similar to the standard method of deleting a user permanently from a system, in which in addition a user's data files, if any would be deleted to release system resources."
7. Claim 24 "the step of denying a new user access to the computer system comprises temporarily denying the new user access to the computer system for a pre-determined period."	Chapman: Column 6, Lines 45-47	"5) Check c) to establish 86 whether a grace period is defined and if so 87 issue a warning to users notifying them of the impending access restriction and wait for the grace period."

TABLE 4C

**8.24 Arguments for Rejections of Independent Claim 29 and Dependent Claim 30 Under 35**

**U.S.C. § 103(a)**

Regarding Applicants' independent claim 29, claim 29 is a method for verifying the identities of new users of a computer system using similarity searching for detecting identity fraud, as contrasted to the Chapman reference, which discloses a method for controlling access to a networked computer system by usernames and passwords. These differences account for the Applicants' claim limitations that are not found in the Chapman reference. See Table 5A for a side-by-side comparison of the limitations of Applicants' claim 29 with the citations relied on by the Office for rejecting Applicants' claim 29.

Considering the first element of independent claim 29, the first element recites the limitation "similarity searching one or more new user profile data records against suspended-users profile data records". As described above, U.S. Patent No. 6,618,727, which is incorporated herein by reference, discloses a similarity search engine that may be used for similarity searching by comparing two documents to determine indicia of similarity that provides a quantitative measure of how alike the two documents are, such as a new user profile data and suspended-users profile data. This similarity search engine is used to similarity search the profile data against suspended-users profile data and provide a similarity search result set that includes indicia of similarity. The suspended-users profile data comprising new user identity attributes contains profile data of users that have been removed or suspended from the system in the past (see Applicants' specification paragraph 0016). If a new user profile data has a similarity match to a suspended-user's profile data, an investigation is conducted to determine if the new user is trying to gain access to the system by creating a new fictitious account (see Applicants' specification paragraph 0020).

The Office cites column 5, line 30-49 of the Chapman reference as disclosing Applicants' first limitation of claim 29. See row 1 of Table 5A for a side-by-side comparison of the first limitation of claim 29 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 5A. This passage describes conventional methods for validating a user account by exact matching of usernames with those stored in a database file, authenticating the user by exact comparison of the encrypted true password with that supplied by a user attempting to logon, and establishing exact user credentials stored in a database. This cited passage in Chapman requires exact matching of usernames and passwords, which may be performed by conventional database management systems. This passage also describes checking account details to determine whether or not to grant a user access to the system. There is no disclosure of similarity searching in this cited passage, and furthermore, a similarity search would not be applicable or desirable to this application, since persons other than an authenticated user may gain access to the computer system by providing similar usernames and passwords. There is no correspondence or equivalence between Applicants' first limitation of claim 29 and the passage in Chapman cited by the Office. There is no disclosure in the Chapman reference of similarity searching profile data against suspended-users profile data. There is no disclosure of similarity searching, new user profile data, or of suspended-users profile data in the Chapman or Brown reference.

Considering the second element of Applicants' claim 29 reciting the limitation "receiving one or more similarity search results sets, each result set having a corresponding new user profile data record and a corresponding similarity match score". The Office cites column 5 lines 42-45 of Chapman as disclosing Applicants' second limitation of claim 29. See row 2 of Table 5A for

a side-by-side comparison of the second limitation of claim 29 with this passage from the Chapman reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Chapman cited by the Office, as shown in Table 5A. This passage describes checking account details to determine whether or not to grant a user access to the system. There is no disclosure in this passage or anywhere else in the Chapman or Brown reference of receiving a similarity search result set, where each result set includes a corresponding new user profile data record and a corresponding similarity score. Furthermore, in order to accomplish this limitation, a similarity search engine like that disclosed in U.S. Patent No. 6,618,727 would be required. There is no disclosure in Chapman or Brown of similarity searching, similarity match score, or new user profile data. There is no correspondence or equivalence between Applicants' second limitation of claim 29 and the passage in Chapman cited by the Office.

Considering the third element of Applicants' claim 29 reciting the limitation "comparing each similarity match score with a pre-determined match tolerance level". The Office cites column 3, line 66 - column 4, line 7 of Brown as disclosing having a match score for similarity search result. See row 3 of Table 5B for a side-by-side comparison of this limitation of claim 29 with this passage from the Brown reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 5B. The cited passage discloses reliance on the matching index entries using a Soundex function that phonetically encodes text elements for computing record weights and determining match conditions for indicating how close input data is to certain match records using a second statistical function described in Column 4, Lines 8-15 as a statistical test. There is no disclosure in this passage of assigning a match score to each



similarity search result set, as disclosed in Applicants' specification and U.S. Patent No. 6,618,727. The Office also cites column 14, lines 49-51 of Brown as disclosing comparing a match score against a predetermined tolerance level. In the context of the total process, twenty-two statistical record match tests are applied to the ten highest record weights of match functions to determine whether a hit, miss, or multiple value will be assigned to the corresponding match record. The cited passage merely discloses multiple match conditions when more than one match record matches input search data above a threshold amount. There is no disclosure of comparing the match score assigned to each similarity search result set to a pre-determined match tolerance level, as illustrated in row 3 of Table 5B.

Considering the fourth and fifth elements of Applicants' claim 29 reciting the limitations "for each negative similarity match score having a value of less than or equal to the pre-determined match tolerance level, allowing access to the computer system by a new user associated with a new user profile data record corresponding to a negative similarity match score", and "for each positive similarity match score having a value greater than the pre-determined match tolerance level, denying access to the computer system by a new user associated with a new user profile data record corresponding to a positive similarity match score." The Office cites column 4, lines 27-30 of Brown as disclosing having a match score for similarity search result. See rows 4 and 5 of Table 5B for a side-by-side comparison of these limitations of claim 29 with this passage from the Brown reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 5B. The cited passage of column 4, lines 27-30 of Brown describes a Q-Gram function that allows the invention to determine a precise match condition. There is no disclosure in Applicants' specification of a Q-Gram

function. There is no disclosure of comparing the match scores assigned to each similarity search result set to a pre-determined match tolerance level for allowing or denying access to the computer system by a new user, as illustrated in rows 4 and 5 of Table 5B.

Regarding dependent claim 30 of Applicants' specification that includes the step of denying access, the first element of claim 30 recites the limitation "confirming whether the positive similarity match score exists between the new user profile data record and a corresponding suspended-users profile data record". The Office cites column 13, lines 49-59 of Brown as disclosing whether a positive similarity match score exists between the new user profile data record and a corresponding suspended users profile data record. See row 6 of Table 5C for a side-by-side comparison of this limitation of claim 30 with this passage from the Brown reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 5C. The cited passage of column 13, lines 49-59 of Brown describes a process for determining a likelihood of a close match between individual match records and input search data using Soundex functions and statistical analysis functions. There is no disclosure in Applicants' specification of the use of Soundex functions or statistical analysis functions for determining a match between input search data and match records. There is no disclosure in the Brown reference of a similarity search function providing similarity match scores. There is no disclosure of determining whether a positive similarity match score exists between the new user profile data record and a corresponding suspended users profile data record, as illustrated in row 6 of Table 5C.

Considering the second element of Applicants' claim 30, which recites the limitation "allowing a new user associated with a new user profile data record corresponding to a positive

similarity match score to access the computer system, where the positive similarity match score is not confirmed”. The Office cites column 13, lines 55-59 of Brown as disclosing allowing a user access to the computer system where the positive similarity match score is not confirmed. See row 7 of Table 5C for a side-by-side comparison of this limitation of claim 30 with this passage from the Brown reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as shown in Table 5C. The cited passage of column 13, lines 55-59 of Brown describes a step that uses statistical analysis functions in the process for determining a likelihood of a close match between individual match records and input search data using Soundex functions and statistical analysis functions. There is no disclosure in Applicants' specification of the use of Soundex functions or statistical analysis functions for determining a match between input search data and match records. There is no disclosure in the Brown reference of a similarity search function for providing positive similarity match scores. There is no disclosure for allowing a user access to the computer system where the positive similarity match score is not confirmed, as illustrated in row 7 of Table 5C.

Considering the third element of Applicants' claim 30, which recites the limitation “denying a new user associated with a new user profile data record corresponding to a positive similarity match score access to the computer system, where the positive similarity match score is confirmed.” The Office cites column 13, lines 55-59 of Brown as disclosing denying a user access to the computer system where the positive similarity match score is confirmed. See row 8 of Table 5C for a side-by-side comparison of this limitation of claim 30 with this passage from the Brown reference that the Office asserts is equivalent. Applicants contend that this claim limitation is not explicit, implicit or inherent in the passage in Brown cited by the Office, as

shown in Table 5C. The cited passage of column 13, lines 55-59 of Brown describes a step that uses statistical analysis functions in the process for determining a likelihood of a close match between individual match records and input search data using Soundex functions and statistical analysis functions. There is no disclosure in Applicants' specification of the use of Soundex functions or statistical analysis functions for determining a match between input search data and match records. There is no disclosure in the Brown reference of a similarity search function for providing positive similarity match scores. There is no disclosure for denying a user access to the computer system where the positive similarity match score is confirmed, as illustrated in row 8 of Table 5C.

COMPARISON OF INDEPENDENT CLAIM 29 AND DEPENDENT CLAIM 30 LIMITATIONS WITH PASSAGES CITED BY THE OFFICE		
CLAIM LIMITATIONS	CITATION	OFFICE ASSERTED EQUIVALENT IN CHAPMAN AND BROWN
1. Claim 29, "similarity searching one or more new user profile data records against suspended-users profile data records"	Chapman: Column 5, Line 30-49	Describes a process of checking a user account details 42 at logon, as shown in Figure 3 of Chapman. The step 42 comprises the steps of validating 44, authenticating 46 and establishing credentials 48. Validating 44 the user account is performed by checking that a username 31 exists in a file 30 that matches the username supplied by the user attempting to gain access. Authenticating 46 the user is performed by comparing an encrypted true password 31 with an encrypted password supplied by the user attempting to gain access. Establishing credentials 48 is data stored in a database that define the user's accountability and access rights to files on the system. "This step 42 of checking account details is therefore the step at which it is normally determined whether or not a user is to be granted access to the system 2 and allowed to proceed with the later steps in the logon sequence. As will be discussed later, in the preferred embodiment of the present invention a user may be denied access at a later stage."
2. Claim 29, "receiving one or more similarity search results sets, each result set having a corresponding new user profile data record and a corresponding similarity match score"	Chapman: Column 2, Lines 42-45	"This step 42 of checking account details is therefore the step at which it is normally determined whether or not a user is to be granted access to the system 2 and allowed to proceed with the later steps in the logon sequence. As will be discussed later, in the preferred embodiment of the present invention a user may be denied access at a later stage."

TABLE 5A

COMPARISON OF INDEPENDENT CLAIM 29 AND DEPENDENT CLAIM 30 LIMITATIONS WITH PASSAGES CITED BY THE OFFICE		
CLAIM LIMITATIONS	CITATION	OFFICE ASSERTED EQUIVALENT IN CHAPMAN AND BROWN
3. Claim 29, "comparing each similarity match score with a pre-determined match tolerance level"	Brown: Column 3, Line 66 through Column 4, Line 7	The cited passage relies on a first function described in Column 3, Lines 47-65 to determine matching index entries. This function is described as a Soundex function that phonetically encodes text elements. The cited passage discloses reliance on the matching index entries using a Soundex function for computing record weights and determining match conditions for indicating how close input data is to certain match records using a second function described in Column 4, Lines 8-15 as a statistical test.
4. Claim 29, "for each negative similarity match score having a value of less than or equal to the pre-determined match tolerance level, allowing access to the computer system by a new user associated with a new user profile data record corresponding to a negative similarity match score"	Brown: Column 14, Lines 49-51	"A multiple match condition exists when one or more match record matches the input search data above a predetermined threshold amount."
5. Claim 29, "for each positive similarity match score having a value greater than the pre-determined match tolerance level, denying access to the computer system by a new user associated with a new user profile data record	Brown: Column 4, Lines 27-30	"The Q-gram function allows the invention to exactly determine a precise match condition for the closest database match records."
	Brown: Column 4, Lines 27-30	Same as above.

**TABLE 5B**  
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COMPARISON OF INDEPENDENT CLAIM 29 AND DEPENDENT CLAIM 30 LIMITATIONS WITH PASSAGES CITED BY THE OFFICE		
CLAIM LIMITATIONS	CITATION	OFFICE ASSERTED EQUIVALENT IN CHAPMAN AND BROWN
corresponding to a positive similarity match score”		
6. Claim 30, “confirming whether the positive similarity match score exists between the new user profile data record and a corresponding suspended-users profile data record”	Brown: Column 13, Lines 49-59	In the description of Figure 7 for determining match records, after the step of 35 determining a set of match records using Soundex functions, the step of 36 computing record weight of match records, the step of 37 includes receiving the entire set of match records with the record weights and applying a second statistical analysis function for determining a likelihood of a close match between individual match records and the input search data.
7. Claim 30, “allowing a new user associated with a new user profile data record corresponding to a positive similarity match score to access the computer system, where the positive similarity match score is not confirmed”	Brown: Column 13, Lines 55-59	“Generally, the second function may be any statistical analysis function which compares the record weights of each unique match record, or a subset thereof, and determines the likelihood of a close match between individual match records and the input search data.”
8. Claim 30, “denying a new user associated with a new user profile data record corresponding to a positive similarity match score access to the computer system, where the positive similarity match score is confirmed”	Brown: Column 13, Lines 55-59	Same as above.

TABLE 5C

**9. SUMMARY**

The responses detailed above rebut the assertions by the Office of anticipation and obviousness of Applicants' invention, since all the elements of Applicants' claimed invention are not found in the cited references of Chapman et al and Brown et al. The responses substantiate the novelty and nonobviousness of claims 1-11, 13-24 and 26-30 of Applicant's specification over the cited references. Since the rejections are unsupported for failure to find all Applicants' claim limitations in the cited references, the rejections should be withdrawn. In addition, since all of the limitations of Applicants' claims are not found in the references cited by the Office, even if the references were combined, as suggested by the Office, the combination would not equal Applicants' claimed invention.

Applicants respectfully request reversal of all rejections and that the application allowed to issue.

Respectfully Submitted,

Sept 30, 2005  
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**APPENDIX A**

**CLAIMS ON APPEAL**

1. (previously presented) A method for verifying the identities of new users of a computer system using similarity searching, comprising:

- a. receiving a plurality of records, each record containing profile data input by a new user;
- b. similarity searching the profile data of each record against suspended-users profile data;
- c. receiving a similarity search result set;
- d. determining, for each record, whether a positive similarity match or a negative similarity match exists between the profile data of the record and the suspended-users profile data based on the similarity search result set;
- e. allowing a new user to access the computer system, where a negative similarity match is determined between the record of the new user and the suspended-users profile data; and
- f. forwarding the record of a new user to a review process, where a positive similarity match is determined between the record of the new user and the suspended-users profile data, the review process comprising:

- i. confirming whether the positive similarity match exists between the profile data of the record and the suspended-users profile data;
- ii. allowing the new user to access the computer system, where the positive similarity match is not confirmed; and
- iii. denying the new user access to the computer system, where the positive similarity match is confirmed.

2. (previously presented) The method of claim 1, wherein the step of determining a positive or negative similarity match further comprises:

- assigning a match score to each similarity search result set; and
- comparing the match score to a pre-determined match tolerance level.

3. (original) The method of claim 1, wherein the step of denying a new user access to the computer system comprises permanently denying the new user access to the computer system.
4. (original) The method of claim 1, wherein the step of denying a new user access to the computer system comprises temporarily denying the new user access to the computer system for a pre-determined period.
5. (original) The method of claim 1, wherein the step of receiving a plurality of records further comprises creating an account for each new user.
6. (original) The method of claim 1, wherein the step of receiving a plurality of records further comprises receiving a plurality of records into a production new-user database.
7. (original) The method of claim 6, further comprising updating a new-users profile database, with profile data from each new-user record received into the production new-users database, before the step of similarity searching.
8. (original) The method of claim 7, further comprising updating a suspended-users profile database, containing suspended-user profile data, with additional suspended-user profile data stored in a production-suspended-users database, before the step of similarity searching.
9. (original) The method of claim 8, wherein the step of similarity searching further comprises similarity searching the new-user profile data against the suspended-users profile database, via a batch similarity search engine.
10. (previously presented) The method of claim 1, wherein the positive response process further comprises relaying the new-user record to a user-review database, before the step of confirming at least one positive similarity match.
11. (previously presented) The method of claim 10, further comprising the step of displaying the user-review database via a web-based interface, after the step of relaying the new-user record to

a user-review database and before the step of confirming at least one positive similarity match.

12. (canceled)

13. (previously presented) A method for verifying identities of new users of a computer system using similarity searching, comprising:

- a. receiving a plurality of records into a production new-user database, each record comprising profile data input by a new user;
- b. updating a new-users profile database, with profile data from each record received into the production new-users database;
- c. updating a suspended-users profile database, containing suspended-user profile data, with additional suspended-user profile data stored in a production-suspended-users database;
- d. relaying the new-user profile data from the new-user profile database to a similarity search engine;
- e. similarity searching the new-user profile data against the suspended-users profile database, via the similarity search engine;
- f. receiving at least one similarity search result set;
- g. determining, for each record, whether a positive similarity match or a negative similarity match exists between the profile data of the record and the suspended-users profile data based on the similarity search result set;
- h. allowing a new user to access the computer system, where a negative similarity match is determined between the record of the new user and the suspended-users profile data; and
- j. forwarding the record of a new user to a review process, where a positive similarity match is determined between the record of the new user and the suspended-users profile data, the review process comprising:

- i. confirming whether the positive similarity match exists between the profile data of the record and the suspended-users profile data;
  - ii. allowing the new user to access the computer system, where the positive similarity match is not confirmed; and
  - iii. denying the new user access to the computer system, and forwarding the profile data from the new-user record to the production suspended-users database, where the positive similarity match is confirmed.
14. (original) The method of claim 13, wherein the step of receiving a plurality of new-user records into a production new-user database further comprises creating an account for each new user.
15. (original) The method of claim 13, wherein the step of updating the new-users profile database further comprises importing the production new-users database into the new-users profile database.
16. (original) The method of claim 13, wherein the step of updating the suspended-users profile database further comprises importing the production suspended-users database into the suspended-users profile database.
17. (original) The method of claim 13, further comprising the step of formulating the new-user profile data into at least one search command, after the step of updating the new-users profile database and before the step of similarity searching.
18. (previously presented) The method of claim 13, wherein the step of determining a positive or negative similarity match further comprises:
  - assigning a match score to each similarity search result set; and
  - comparing the match score to a pre-determined match tolerance level.

19. (original) The method of claim 13, wherein a similarity search result set is received for each new-user record searched.
20. (original) The method of claim 13, wherein one similarity search result set is received for all new-user records searched.
21. (previously presented) The method of claim 13, wherein the positive response process further comprises relaying the new-user record to a user-review database, before the step of confirming at least one positive similarity match.
22. (previously presented) The method of claim 21, further comprising the step of displaying the user-review database via a web-based interface, after the step of relaying the new-user record to a user-review database and before the step of confirming at least one positive similarity match.
23. (original) The method of claim 13, wherein the step of denying a new user access to the computer system comprises permanently denying the new user access to the computer system.
24. (original) The method of claim 13, wherein the step of denying a new user access to the computer system comprises temporarily denying the new user access to the computer system for a pre-determined period.
25. (canceled)
26. (previously presented) A system for verifying identities of new users of a computer system using similarity searching, comprising:
- means for receiving records from a plurality of new users;
  - means for extracting new-user profile data from each record;
  - means for similarity searching the new-user profile data against suspended-users profile data;
  - means for receiving similarity search results sets;

means for determining whether a positive similarity match or a negative similarity match exists between the new-user profile data of each record and the suspended-users profile data;

means for allowing a new user to access the computer system, where a negative similarity match exists; and

means for reviewing the record of a new user, where a positive similarity match exists between the record and suspended-users profile data, comprising:

means for confirming whether the positive similarity match exists between the record and suspended-users profile data;

means for allowing the new user to access the computer system, where the positive similarity match is not confirmed; and

means for denying the new user access to the computer system, where the positive similarity match is confirmed.

27. (previously presented) A computer-readable medium containing instructions for controlling a computer system to implement the method of claim 1.

28. (previously presented) A computer-readable medium containing instructions for controlling a computer system to implement the method of claim 13.

29. (previously presented) A method for verifying the identities of new users of a computer system using-similarity searching, comprising:

similarity searching one or more new user profile data records against suspended-users profile data records;

receiving one or more similarity search results sets, each result set having a corresponding new user profile data record and a corresponding similarity match score;

comparing each similarity match score with a pre-determined match tolerance level;

for each negative similarity match score having a value of less than or equal to the pre-determined match tolerance level, allowing access to the computer system by a new user associated with a new user profile data record corresponding to a negative similarity match score; and

for each positive similarity match score having a value greater than the pre-determined match tolerance level, denying access to the computer system by a new user associated with a new user profile data record corresponding to a positive similarity match score.

30. (previously presented) The method of claim 29, wherein the step of denying access comprises:

confirming whether the positive similarity match score exists between the new user profile data record and a corresponding suspended-users profile data record;

allowing a new user associated with a new user profile data record corresponding to a positive similarity match score to access the computer system, where the positive similarity match score is not confirmed; and

denying a new user associated with a new user profile data record corresponding to a positive similarity match score access to the computer system, where the positive similarity match score is confirmed.